



UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/554,090 06/14/00 CHMELIR

M 6272-0049-0P

EXAMINER

IM22/0202

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ART UNIT

PAPER NUMBER

1713

DATE MAILED:

02/02/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademark

Office Action Summary

Application No.

09/554,090

Applicant(s)

CHMELIR ET AL.

Examiner

Tanya Zalukaeva

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 May 2000.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 12-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 18) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed 05/04/00 fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. It has been placed in the application file, but the information referred to therein has not been considered.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: providing suitable monomers, neutralizing the monomers, if appropriate, providing initiators and/or other auxiliaries, polymerizing monomers;

4. Claims 17 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The language of claim 17 is absolutely vague and indefinite, it is not readily ascertainable if the Markush group is meant, or if the comonomers are listed, which are copolymerized with acrylic monomers. Furthermore, monomers cannot be based on polymers. The phenomena is quite opposite. Correction is required.

5. Claim 18 recites the limitation "said partially water soluble monomer" in the claim, which is dependent on claim 12. There is insufficient antecedent basis for this limitation in the claim..

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 12-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chmelir (U.S. 4,929,717) in combination with Alexander et al (U.S. 4,985,518)

In regard to claims 12 and 20 Chmelir discloses a method of preparing homopolymers or copolymers that are water-soluble or swell up in water and have a low residual monomer content by treating them with at least one compound that can react with the monomer's double bond. The homopolymer or copolymer in the swollen form and in the form of a gel or in the form of a solution is treated with a compound, such as for example **ammonia, an ammonium salt, an alkylamine and/or one of their salts or a hydroxylamine and/or their salts**, subsequent to which the resulting polymer gel or polymer solution is dried at an elevated temperature., which is 50-150°C (see abstract and col.2, lines 37-38) .

In specific regard neutralizing compounds of claims 12, 13 and 14 Chmelir teaches that the neutralizing compound in either embodiment of the invention can be a compound, such as for example **ammonia, an ammonium salt** , an alkylamine and/or one of its salts, a hydroxylamine and/or its salts. (col.2, lines 60-68) .

In specific regard to claims 16-18 Chmelir's method relates to the polymerization of **acrylic acid and methacrylic acid in the form of a homopolymer or copolymer**, whereby water-soluble monomers such as acrylamide, methacrylonitrile and acrylonitrile, vinyl pyridine, **vinyl acetate**, and other water-soluble monomers such as

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polymerizable acids and their salts, especially maleic, fumaric, itaconic, vinylsulfonic, or acrylamidopropanesulfonic acid. (col.3, lines 43-55)

In regard to claim 19 Chmelir exemplifies that , slight proportions of crosslinking monomers, such as for example monomers with more than one polymerizable group in the molecule, can be polymerized along with the major monomers (col 3, lines 64)

In regard to claims 21 and 22 Chmelir discloses different residual monomer content of his acrylic polymers, such when the neutralizing agent is hydroxyl amine hydrochloride, as in Table 2, col.5, the residual monomer content is 40 ppm, in other cases, such as table 4 col.5 the residual monomer content is 30 ppm.

The disclosure of Chmelir differs from the instant claims by neutralizing the product on the polymer stage, compare to the instantly claimed neutralization on the stage of monomers.

Alexander discloses a method of preparing a water absorbing resin, including mixing a monomer solution of (A) acrylic acid neutralized 70 to 100 mole percent for example with ammonia, and/or caustic alkali and/or an amine; and (B) a water-miscible to water-soluble polyvinyl monomer, water and, when desired, an organic solvent having a boiling point of 40 to 150° C., and having a combined monomer concentration of (A) plus (B) of 30 to 80 wt. % is subjected to polymerization, either batch-wise, or continuously, in the presence of a combination of polymerization initiators. (see abstract and col.2, lines 64-68, col 3, lines 18-27).

The residual monomer content in Alexander's invention can be achieved less than 100 ppm. (col.5, line 1).

Because both Chmelir and Alexander utilize the same process of polymerizing acrylic and methacrylic monomers, and achieve a goal of low residual monomer content, one skilled in the art would have found it obvious to first neutralize monomers before polymerization, such as done by Alexander, in the process of Chmelir unless the criticality of the order of performing the neutralization step is shown. Consult **Ex parte Rubin**, 128 USPQ 440 (Bd. App. 1959) Prior art reference disclosing a process was held to render prima facie obvious claims directed to a similar process by reversing the **order of the prior art order steps**. See also **In re Burnhans**, 154 F.2d 690, 69 USPQ 330 (CCPA 1946) (selection of any order of performing process steps is prima facie obvious in the absence of new and unexpected results).

Conclusion

9. Additional prior art cited in PTOL-892 shows the general state of the art.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanya Zalukaeva whose telephone number is (703) 308-8819. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for

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the organization where this application or proceeding is assigned are (703) 305-3599 for regular communications and (703)305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

Tanya Zalukaeva
Examiner
Art Unit 1713

T.Z.

January 24, 2001



DAVID W. WU
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